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Reply to Office Action of December 27, 2006

REMARKS

Claims 20 - 28 have been added in order to alternately define the invention as disclosed in the specification.

Applicants respectfully request reconsideration of Examiner's rejection of claims 12 - 19 under 35 U.S.C. §103(a). Examiner has rejected these claims in view of the cited references of *Zhou et al.* (U.S. Patent No. 6,205,274) in view of *Krug* (U.S. Patent No. 5,552,918) and further in view of *Winzer* (U.S. Patent No. 4,540,237). The *Zhou* reference is directed to an optical head for coupling an edge emitter light source to an optical fiber (See the abstract of the invention). Figure 7, to which the Examiner cites, discloses a bidirectional communications system, including a light source 102 at an angled end 101A of an optical fiber 101. The end face of the fiber includes a partially reflective surface 105 between the fiber end 101A and a prism 104. Accordingly, most of the light from the light source 102 is reflected into fiber 101 and transmitted to a remote receiver. Some of the light, however, is transmitted through the coating 105 and medium 104 to a power monitor 103 that is capable of providing an output signal indicative of the intensity of the output by light source 102. When optical signals are received along fiber 101, they encounter coating 105, which deflects a portion of the light downward toward light source 102. Light that is not reflected transmits through coating 105 and medium 104 before reading optical receiver 118. (See Column 7, line 56 - Column 8, line 9).

At no point, however, does *Zhou* teach or suggest the limitation wherein "said photoreceptor element is arranged outside a maximum diffusion range of the light emitted from said light-emitting element" as required by the claims. On page 2 of the Examiner's

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January 9, 2006 Office Action, the Examiner states that "*Zhou* is silent on how light diffuses from the light source 102."

In recognition of this deficiency, the Examiner has asserted the Krug reference, and cites to the housing structure 7 of Krug as necessarily requiring that the light receiver 6 be outside the light diffusion range of the light emitter 3 (See FIGURE of Krug).

First and foremost, Applicants submit that Krug is non-analogous art. Krug is directed to a structural housing 7 *for attaching to an adjacent optical fiber* 4. The housing surrounds the light transmitter, first optical element, the fiber connection, the second optical element, the beam splitter, and the light receiver (See claim 1). Applicant's invention, in contrast, is directed to a structure in which a light emitter is placed immediately adjacent the fiber and emits *directly* into the fiber, and in which a light receiver is placed immediately adjacent the fiber and receives radiation *directly* from the fiber. Applicants submit that one of ordinary skill in the art of optical design of these direct radiation structures would not look to structural housings that interface with optical fiber as disclosed in Krug in order to solve outstanding problems in the art of optical communication devices involving the direct injection and reception of light into and out of a fiber.

Applicants note that, in the *Deminski* case, the CAFC held that "The determination that a reference is from a non-analogous art is therefore two-fold. First, we decide if the reference is within the field of the inventor's endeavor. If it is not, we proceed to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved." *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986). A reference is reasonably pertinent if, even though it may be in a different

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field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

In *Wang Laboratories*, the Federal Circuit held considered the issue of whether a single in-line memory modules ("SIMMs") having eight word data storage chips capable of storing 8-bit words (bytes) and a ninth parity bit chip packaged in plastic leaded chip carriers ("PLCCs") is "in the same field of endeavor" as that of the newly asserted Allen-Bradley patent (the "'392") and its commercial counterpart (the "X9 SIMM"). The '392 patent disclosed a SIMM with nine memory chips (8 data, 1 error detection) mounted in a single row. Allen-Bradley sold the X9 SIMM in a programmable controller consisting of chips encapsulated in ceramic dual in-line packages mounted on an epoxy-glass printed circuit board substrate. The CAFC held that "The Allen-Bradley art is not in the same field of endeavor as the claimed subject matter merely because it relates to memories. It involves memory circuits in which modules of varying sizes may be added or replaced; in contrast, the subject patents teach compact modular memories." *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993).

In regard to the second prong of the analogous / non-analogous test set forth in *Deminski*, the CAFC found that "Wang's SIMMs were designed to provide compact computer memory with minimum size, low cost, easy repairability, and easy expandability. ... In contrast, the Allen-Bradley patent relates to a memory circuit for a larger, more costly industrial controller. SRAMs were used by Allen-Bradley because of their intended industrial environment. According to Dr. Frey, size was not a consideration in the Allen-Bradley work. Thus, there is substantial evidence in the record to support a

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finding that the Allen-Bradley prior art is not reasonably pertinent and is not analogous.”
Id at 865.

In this case, Applicants submit that the Krug reference is neither within the same field of the inventor's endeavor, nor is it reasonably pertinent to the particular problem with which the inventor was involved. Significantly, Applicants note that page 2 of the Background of the Invention section specifically teaches to the undesirable effects of utilizing a beam splitter. Krug specifically requires a beam splitter 5 in his disclosure after the light leaves the fiber 4 and enters the housing 7. Additionally, the Krug reference would lead to substantial increases in device size and costs, effects which are also taught away from on page 3 of Applicant's invention.

For at least these reasons, Applicants submit that Krug is non-analogous art and should thus be withdrawn from consideration.

Additionally, even if Krug were considered to be analogous art, Krug fails to disclose the claim limitation requiring that one of said light-emitting element and said photoreceptor element is arranged adjacent an outer surface of the optical fiber in a radial direction from the center of the optical fiber and faces the reflecting surface. As shown in FIGURE of Krug, the fiber 4 interfaces with an end portion of the housing 7, and is a substantial distance away from either one of the light emitter 3 or the light receiver 6. If the references actually were combined in the manner afforded by the Examiner, Applicants submit that it would produce a seemingly inoperative device. The CAFC has held that “such references teach away from the combination and thus cannot serve as predicates for a *prima facie* case of obviousness.” *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir., 2001)

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Furthermore, even if Krug did disclose these limitations, Applicants submit that for the same reasons stated above, one of ordinary skill in the art of fiber optic communication would not combine Krug with any one or more of the other cited references. Applicants note that the CAFC has held that "It is improper to combine references where the references teach away from their combination." *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983). Here, because the incorporation of Krug would require a beam splitter, increased cost, and increased size, goals clearly taught away from on pages 2 – 3 of Applicant's disclosure, these references cannot be combined.

For at least the reasons noted above, Applicants submit that the Examiner must withdraw the rejection of claims 12 – 19, and place these claims in condition for allowance.

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Examiner's remaining references cited but not relied upon, considered either alone or in combination, also fail to teach applicant's currently claimed invention. In light of the foregoing, Applicants respectfully submit that all claims now stand in condition for allowance.

Respectfully submitted,

Date:

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Robert J. Depke
ROCKEY, DEPKE, LYONS &
KITZINGER, LLC
Sears Tower, Suite 5450
Chicago, Illinois 60606-6306
Tel: (312) 277-2006
Attorneys for Applicant